

## PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

**PCT**

NOTIFICATION OF TRANSMITTAL OF  
INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT  
(PCT Rule 71.1)

To:

EGOROVA Galina, MITS Alexander  
LAW FIRM "GORODISSKY &  
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Date of mailing (day/month/year)

18 November 2004 (18.11.2004)

Applicant's or agent's file reference

300370/DKL

**IMPORTANT NOTIFICATION**

International application No.

PCT/RU 2003/000500

International filing date(day/month/year)

18 November 2003 (18.11.2003)

Priority date (day/month/year)

18 November 2002 (18.11.2002)

Applicant

ZAKRYTOE AKTSIONERNOE OBSHESTVO "INDEPENDENT POWER TECHNOLOGIES"  
et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits here with the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

**4. REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1)(see also the reminder sent by the international Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/RU

FIPS  
RU.123995, Moscow, G-59, GSP-5, Berezhkovskaya nab.,30-1

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Form PCT/IPEA/416 (July 1992)

Date G&amp;P: 19/11/2004



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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 300370	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/RU 2003/00500	International filing date (day/month/year) 18 November 2003 (18.11.2003)	Priority date (day/month/year) 18 November 2002 (18.11.2002)
International Patent Classification (IPC) or national classification and IPC H01M 8/00, 8/10		
Applicant ZAKRYTOE AKTSIONERNOE OBSHESTVO "INDEPENDENT POWER TECHNOLOGIES" et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This Report consists of a total of 3 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under PCT).

These annexes consist of a total of        sheets

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand: 14 May 2004 (14.05.2004)	Date of completion of this report: 09 November 2004 (09.11.2004)
Name and mailing address of the IPEA/ RU FIPS Russia, 123995, Moscow, G-59 Berezhkovskaya nab., 30-1	Authorized officer V. Stankov
Facsimile No.	Telephone No 240-25-91

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

Intern application No.  
PCT/RO 2003/000500

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

☒ the international application as originally filed☐ the description:

pages \_\_\_\_\_, as originally filed,  
pages \_\_\_\_\_, filed with the demand,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

☐ the claims:

pages \_\_\_\_\_, as originally filed,  
pages \_\_\_\_\_, as amended (together with statement) under Article 19,  
pages \_\_\_\_\_, filed with the demand,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

☐ the drawings:

pages \_\_\_\_\_, as originally filed,  
pages \_\_\_\_\_, filed with the demand,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

☐ the sequence listing part of the description:

pages \_\_\_\_\_, as originally filed,  
pages \_\_\_\_\_, filed with the demand,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1.(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_  
☐ the claims, Nos. \_\_\_\_\_  
☐ the drawings, sheet/fig. \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under I and annexed to this report.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No

PCT/RU 2003/000500

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-26	YES
	Claims		NO
Inventive Step (IS)	Claims	1-26	YES
	Claims		NO
Industrial Applicability (IA)	Claims	1-26	YES
	Claims		NO

### 2. Citations and explanation:

The International Preliminary Examination report is prepared taken into account the original claims of the invention and the following documents cited in the Search Report:

D1 - RU 2044371 C1  
D2 - US 4828941 A  
D3 - US 5599638 A  
D4 - WO 97/50140 A1  
D5 - WO 01/39307

From D1 it is known an alcohol-air fuel cell comprising an anode chamber with a liquid catalytically active anode and an air chamber with a catalytically active gas-diffusion cathode divided by alcohol-alkaline mixture which is used as a fuel. The claimed fuel cell under the claim 1 differs from D1 by that the fuel cell in an electrolyte chamber additionally comprises a membrane electrolyte, and a non-platinum catalyst is used as a cathode catalyst which is tolerant in respect to alcohol.

Consequently, the claims 1-26 have novelty

From D2-D4 it is known a fuel cell comprising a housing with an anode and a cathode which are divided by membrane electrolyte using a methanol-aqueous mixture as a fuel. From above documents it is known the use of membrane electrolyte in the fuel cell, however it is used an acid membrane in it and said membrane is not compatible with alkaline electrolyte. The disadvantage of the membrane fuel cells is the transfer of methanol to cathode through a membrane; said transfer produces the poisoning of the catalyst of the cathode and the reduction of characteristics. For limitation of said effect it is reduced a methanol concentration in a mixture. It results in reduction of uninterruptedly work time and the characteristics.

In D5 the acid electrolyte circulation is used, aimed to remove said disadvantages. The use of acid electrolyte requires the choice of the specific acid-proof materials and the use of platinum catalysts, which causes the construction complication and the increase of fuel cell cost.

Therefore, said characteristic features of the claimed fuel cell are not obvious for a skilled person and allow to produce the technical result consisting in the increase of fuel cell characteristics and reduction of its cost.

Consequently, the claims 1-26 involve an inventive step.